CUSTOMER INFORMATION CONTROL SYSTEM
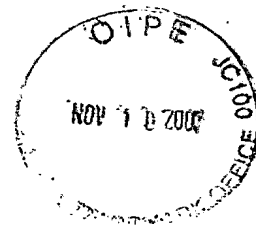
BACKGROUND OF THE INVENTION

Field of the Invention

5   The present invention relates to a system for controlling customer information.

Related art

Particularly in hospitality industries such as eating and drinking business, retail stores or the like, how to take great care of customers, and in the eating and drinking business, how to make customers revisit their stores, or in retail stores, how to make customers purchase

10   products again in their stores, that is, creating more so-called repeaters is the most important problem.

Heretofore, in order to increase repeaters, a customer ledger is prepared on paper cards or on a personal computer, and information on the customer ledger is read accordingly to deal with customers.

15   Moreover, for example, with regard to offer of delicate service to repeaters, such as invitation on the birthday of the customer, the customer becomes familiar with the owner or manager of the store via personal invitation, and thus service is customized for each customer.However, if the owner or the manager of the store is retired, these services can no longer be performed .

20   , With high economic growth, hospitality industries such as eating and drinking business, retail stores or the like is flourishing recently. On the other hand, excessive competition becomes severe in hospitality industries, and soft reception of customers brings customers back to the store again, although enhancement in view of taste or quality of goods is also important to increase or secure so-called repeaters.

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SUMMARY OF THE INVENTION

It is, therefore, an object of the present invention to provide information necessary for enhancing the soft mood at the time of reception, such as the name and birthday of the customer, to a shop assistant who receives a customer, even if the shop assistant is not acquainted with the customer, , if the customer has once come to the shop.

It is another object of the present invention to provide information for enhancing the soft mood at the time of reception of a customer, to a waiter, for example, in a restaurant, such that though the waiter has not received the customer before, the waiter can discuss or talk about the preference of the customer, after having got the information such as orders that the customer made before.

The other object of the present invention is, in officially public facilities (such as police stations, hospitals, city halls, stations or schools), or in finance business (such as banks, post offices, card companies or the like), or in private facilities (such as convenience stores, hotels or the like), to provide information for enhancing the soft mood at the time of reception to the person who receives the customer.

In general, the feature of the present invention is that comfortable service can be provided to repeating customers by storing image information of a plurality of customers and retrieve personal information of the customers in respective servers, or linking these information to each other and storing these information, to thereby control the customer personal information, and at any time as required, outputting the image or/and peculiar customer information on a display of a mobile image communication terminal, such as a high function and high performance mobile phone, or on a display of a fixed terminal, such as a personal computer for confirmation.

As the above-described customer information, <voice> of the customer may be included, and it is one feature of the present invention to verify and recognize the customer information by means of <voice>. This includes information obtained by asking the customer

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about address, name, birthday or the like in a questionnaire format.

The other objects, excellent features on the construction, excellent working effects of the present invention will become obvious in the description of embodiments described below.

Moreover, in the embodiments of the present invention, although description will be given by means of images of a face, or a part of the body, or the whole image of the customer, the present invention includes all means that can identify the customer, by collecting or specifying of these information, or taking photographs of the frame, shape of the ear, outline or size of the face, and positional relationship between the face, eyes and the nose, using invisible rays such as X-rays.

In general, according to the present invention, better service can be provided to repeating (regular) customers, by linking a predetermined image information with the customer personal information to control the customer information, and outputting the images and the customer personal information on a display of a mobile image communication terminal, such as a high function and high performance mobile phone, or on a display or a printer of a personal computer.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a block diagram of the present invention;

Figure 2 is an illustrative explanation diagram of Figure 1;

Figure 3 is an overall schematic diagram for explaining the operation;

Figure 4 is a schematic diagram showing one example of an image and characters displayed on a display such as a handy terminal;

Figure 5 is a block diagram at the time of input, for explaining the operation in another embodiment;

Figure 6 is a block diagram at the time of input similar to Figure 5;

Figure 7 is a block diagram at the time of input, for explaining the operation in another embodiment; and

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Figure 8 is a block diagram at the time of output thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the drawings, reference symbol 1 denotes a questionnaire form for collecting

5 information of a plurality of customers. This is, for example, handed over to a customer to fill

in by the owner or manager of a restaurant. As to the information obtained from the customer,

value added information is preferable, such as favorite foods, hobbies and special skills, in

addition to personal information (ID) such as name, address, telephone number, domain, age,

sex and family make-up. The customer personal information may be any information that can

10 specify the customer in comparison with other customers.

This questionnaire result is input to a personal computer and turned into electronic

data.Not only using such a questionnaire form, an interview may beconducted to gatherfrom

the customer the customer personal information by voice input 2.

The information is turned into electronic data as described above and stored in a data

15 server 3 via a wired or wireless network line 11, as shown in Figure 2.

Moreover, in the figure, reference symbol 4 denotes one or a plurality of image pick-

up elements, such as a camera, installed in a predetermined place in the store. In the case of

restaurants or supermarkets, as shown in Figure 3, this video element 4 is usually installed at

the side of a display showing the total amount, such as a register 7, or the like, so as to be

20 unnoticed.

This is because customers always turn their faces toward the display 8 to see the total

charge amount, and hence their pictures are reliably taken, and customers do not have

uncomfortable feeling because their pictures are taken.

In another embodiment, a nameplate stand 9 in a "store" as shown in the figure has a

25 video element 4, such as a camera, installed at an unnoticed position. If customers are asked

to write their names every time they come to the store, , information such as name can be input

together with the picture of the customer without notifying them.

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The content of the images is not limited to the "face" 10 of the customer, and any physican features may be taken, as long as it can specify the customer, by a part of the body or the whole body, or outline of the face, shape of the ear, or positional relationship between the face, eyes and the nose, using invisible rays.

5   This image data is stored in an image server 12 via the transmission by a wired or wireless network line 11. In this case, it is naturally necessary to consider encoding, such as adding a file name to the data information and the image information, respectively, corresponding to each other.

The information in these both servers 3, 12 is output to a fixed terminal 14, such as a personal computer, or a mobile terminal 15, such as a mobile phone, or a printer 18, as completed necessary information, so that the information can be provided for the customer service as needed.

Moreover, the mobile terminal 15, such as a mobile phone referred herein, includes a handy terminal for an order entryin eating places, such as restaurants.

15   Referring to Figure 3, in the entrance D of this store, a video element 13, such as a camera (which shoots or takes a photograph of the face, a part of the body or the whole body, or the outline of the face or the frame of a customer C entering the store, is installed at a predetermined position at the entrance D of this store.

Furthermore, the image information obtained by the video element 13, such as a camera, is connected to the image server 12 via the wired or wireless network line 11.

One example of the operation in the present invention will be described with reference to Figure 5 to Figure 8. Here, it is assumed that a visitor (customer) comes to a shop. The picture of the visitor (customer) is taken and transmitted to the image server 12 for performing Authentication operation.

25   That is to say, this Authentication is for confirming whether the concerned image has been taken and stored in the image server 12. If the customer has not had images taken, it means that the customer is a first time visitor. Therefore, this image data is stored in the image

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server 12.

As a result of this Authentication, if there is an image that agrees with one of the existing images of the customer in the image server 12, an informing message is transmitted to a person who is receiving the customer (waiter) E.

As such , since the reception person E normally carries a handy terminal 15 for receiving the order of the customer, the above message is delivered to the reception person with an arrival signal, such as lighting up the terminal 15.

In this manner, the reception person knows that the customer he is now waiting on is a customer who has come to the shop before, and hence he retrieves the image of the customer that has been input last time from the image server 12, if necessary, via the wired or wireless network line 11, to be displayed on the handy terminal 15, and searches various information from the data server 3, using the file number as a key word, to display the data on the terminal 15, as shown in Figure 4.

Here, the reception person confirms that the customer he is now waiting on is the same as the image displayed on the terminal 15, and at the same time, for example, seeing the menu the customer had ordered several times in the past from the data server 3, to obtain detailed customer personal information, such as "the preference of the customer for meat dish is sirloin", "the preference of the customer for the cooked state of beef is medium", "the customer orders coffee after the meal", or "the customer likes a seat by the window". If the waiter waits on the customer based such information, the customer is surprised by this service, and will never forget this restaurant.

Moreover, as shown in Figure 7, if a file 16, also referred to as "customer chart" in which the character information in the data server 3 is docked with the image information corresponding thereto (prepared in advance), when a customer comes back to this restaurant again, a picture of the face or whole image or the frame of the customer D is taken by the video element 13, such as a camera installed in the shop, and the image information can be immediately verified with the file 16, also referred to as "customer chart" described above, via

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the wired or/and wireless network line 11, thereby identification operation of the customer information can be performed promptly.

The customer personal information processed in this manner is retrieved and output to the fixed output terminal 14, such as a personal computer or a mobile output terminal, such as the handy terminal 15, as needed, in the same manner as in the above embodiment. Then, the information can be flexibly used for the customer service, such as by providing a seat by the window to the customer who likes a seat by the window, or by asking the customer, "Last time you preferred medium, but how do you like it this time?", at the time of confirming the cooked state of the beef, or by providing a present, such as a bouquet, or providing a discount service, if it is the birthday of the customer.

As another embodiment, if the customer, who has enjoyed the meal and is going to leave, wants to use a credit card for the payment, , a picture of the face or the whole image, or the frame of the customer is taken by one or a plurality of image pick-up elements 4, such as cameras installed in the vicinity of the register display 8 , and the image information is transmitted to the file 16, also referred to as "customer chart", via the wired or/and wireless network line 11 for authentication.

In the file 16, also referred to as "customer chart", upon receiving an authentication request, the data collected in advance in the data server 3 is taken out from the customer list in the past, based on the image information, and information such as whether or not the credit card is now being used by the customer is in a robbery report, whether it is forged , or even if the credit card is of the right person, whether or not the customer is an identified criminal or a missing person can be confirmed in a moment.

As described above, data information obtained by means of questionnaire or the like, or image information, can be available onerously or free of charge to public organizations or companies 17 that require the information. It is also possible to cooperate with various public facilities or private facilities. forexample, the police presents images of criminals beforehand to restaurants or the like for "criminal arrest", and if the same image as those is detected, it is

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informed to the police.